

Docket No. P05146-US  
Serial No. 10/804,153

2

**AMENDMENTS TO THE CLAIMS:**

**Please amend the claims as**

- 1-7. (Canceled)
8. (Currently Amended) An optical waveguide ~~at least~~ comprising:  
a core; and  
a clad,  
wherein the core is patterned by using a photomask, and  
wherein a width of a part of the photomask corresponding to the core  
is wider than a design width of the core.
9. (Currently Amended) An optical waveguide as claimed in claim 8, wherein the  
width of the part of the photomask that corresponds to the core is more than 0.5 $\mu$ m wider  
than the design width of the core.
10. (Currently Amended) An optical waveguide at least comprising:  
a core; and  
a clad,  
wherein a design width of the core, d, is represented by the formula:  
$$d < 1.45\lambda / (2(\sqrt{(n_{\text{core}}^2 - n_{\text{clad}}^2)}))$$
  
where a refractive index of the core is  $n_{\text{core}}$ , a refractive index of the clad  
is  $n_{\text{clad}}$ , and a cutoff wavelength of the optical waveguide is  $\lambda$ , and a width M of a  
corresponding part of a masking layer that patterns the core is represented by the formula:  
$$M > 1.45\lambda / (2(\sqrt{(n_{\text{core}}^2 - n_{\text{clad}}^2)})).$$
11. (Previously Presented) An optical waveguide as claimed in claim 10, wherein the  
cutoff wavelength is 80 to 90% of a wavelength in use.